POTUS 500 MHz Initiative

2011 DoD Spectrum Workshop
December 15, 2011

Spectrum and Communication Policy
DoD CIO

Purpose

- Provide update on POTUS Initiative to Make Available
  500 MHz of Spectrum for Wireless Broadband

  – 1755-1850 MHz Band Feasibility Study

  – Next Band(s) to Study

  – Revisit FAST TRACK Bands

Background

• **<u>March 19, 2010</u>**: National Telecommunications and Information Administration (NTIA) announces an aggressive initiative (**Fast Track**) to study four spectrum bands as candidates for geographic sharing within 5 years.

• **<u>June 28, 2010</u>**: Presidents signs **Executive Memorandum** directing Secretary of Commerce through NTIA to collaborate with FCC and Federal Agencies to develop a plan (**10 Year Plan**) to make available 500 MHz of federal and non-federal spectrum for use by wireless broadband over the next 10 years

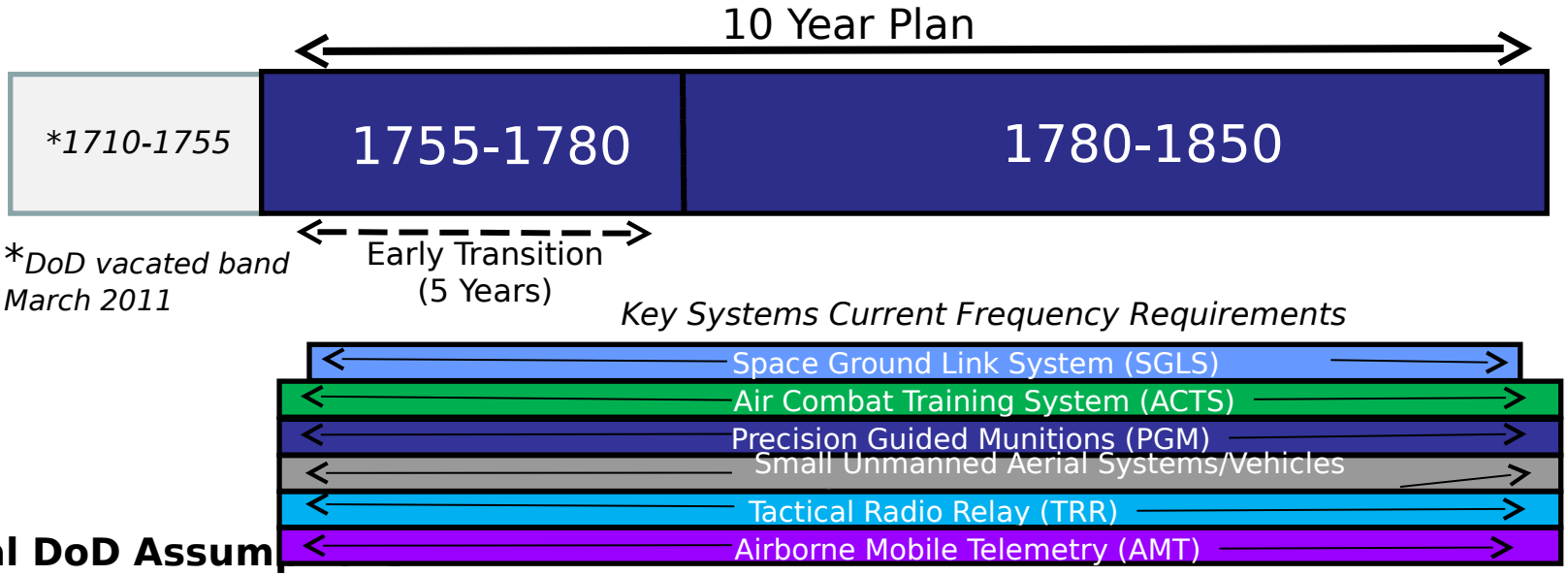
• **<u>November 15, 2010</u>**: Secretary of Commerce publishes "**Ten Year Plan"** and "**Fast Track" Study Results -** Recommended 115 MHz (1695-1710 MHz and 3550-3650 MHz) bands for Geographic Sharing

• **<u>January 31, 2011</u>**: 1755-1850 MHz band selected as priority band for study and feasibility study initiated

• **<u>September 2011</u>**: DoD completes feasibility study of 1755-1850 MHz band

Overview
1755-1850 MHz Study

- **Study Task:** Evaluate feasibility of relocating DoD systems from 1755-1850 MHz band in 10 years. Also, evaluate DoD's ability to vacate the lower 25 MHz in an early transition (within 5 years).



- **Critical DoD Assum**

1. Comparable Spectrum w/equivalent technical characteristics and regulatory status will be made available
2. System relocations will begin subsequent to receipt of funding from auction proceeds
3. Any system able to transition out of the 1755-1780 MHz to 1780-1850 MHz band within 5 years is considered a temporary step to vacating the entire 1755-1850 MHz band within 10 years

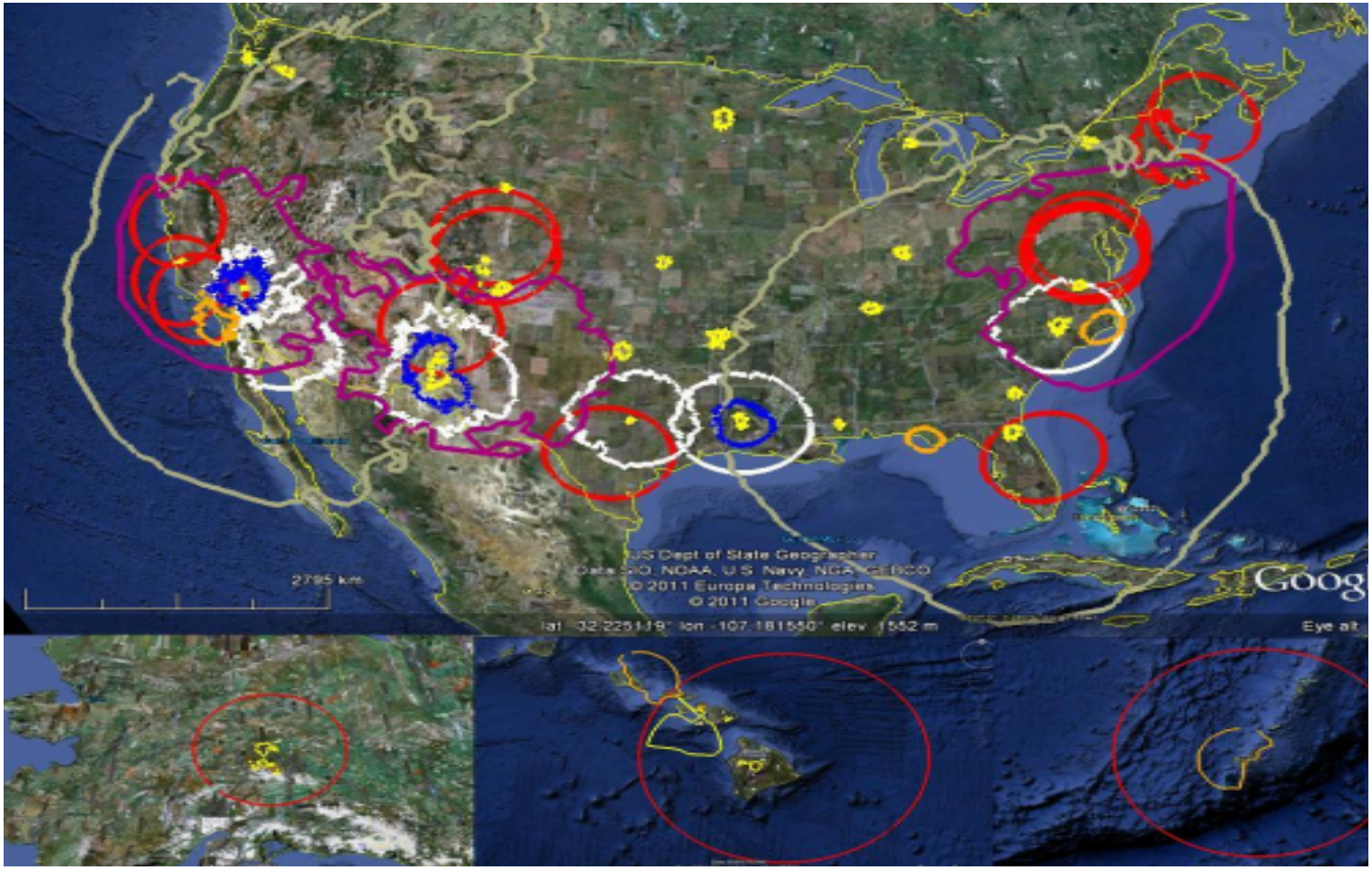
DoD Systems 1755-1850 MHz Band

System Category	Service	Mission
Air Combat Training Systems (ACTS)	**AF/Navy/USMC**	**Aircraft /ground data link instrumentation systems/pods for monitoring, control, and safety of robust aircrew combat training and unit, wing, carrier strike group, joint, and multinational exercises**
Aeronautical Mobile Telemetry (AMT)	**All Services**	**Multiple systems (test aircraft, telemetry pods, ground stations and remote controlled targets) for test and evaluation of aerial weapon systems at numerous locations**
Space Ground Link Sub-system (SGLS)	**AF/Navy**	**Satellite launch, deployment, early orbit, emergency recovery, current operations, orbit/mission control, and end of life disposal for DoD/IC, Allied and Civil Space Systems**
Tactical Radio Relay (TRR)	**Army/Navy/USMC**	**Transportable, line of sight tactical battle space command and control communications for voice and data**
Small Unmanned Aerial Systems (UAS)	**All Services**	**Video and telemetry links for Small UAV/UAS/RPV**
Fixed Point-to-Point Microwave	**All Services**	**Fixed microwave systems; primary support for Army Corps of Engineers**
Precision Guided Munitions	**AF/Navy**	**C2 and video guidance links for AGM-130, GBU-15 and SLAM-ER**
High Resolution Video	**AF/Navy/Army**	**Air/Ground video surveillance to support targeting pods (Litening) and criminal investigations/law enforcement;**
Land Mobile Robotic Video Links	**All Services**	**Video links to remote operators for explosive ordnance disposal & demining operations**
Software Defined Radios	**All Services**	**Joint Tactical Radio System (JTRS) and Navy's NIFC-CA capabilities**
Electronic Warfare (EW) Systems	**All Services**	**Airborne and ground electronic attack**

DoD Relocation Requirements 1755-1850 MHz

- Relocate from 95 MHz across a 10+ Year timeline
- Comparable Spectrum: 2025-2110 MHz & 5150-5250 MHz
- $12.93B in relocation funding
- Exclusion Zones until transition complete

DoD Exclusion Zones
1755-1850 MHz Band



ACTS: Brown **SGLS: Red** **TRR (Navy/Marine Corps): Orange** **SUAS:** Blue **JTRS HMS: Yellow JTRS AMF: White AMT: Purple**

Influential Factors
1755-1850 MHz Band

- Industry, Congress, and the Administration indicating possible repurpose of 1755-1780 MHz (25 MHz Scenario)

DoD requires additional time to study the technical, operational, cost, and schedule impacts to relocate from 1755-1780 MHz Band as an independent scenario

Next Band to Study

DoD Proposed Bands	NTIA Proposed Bands
1695-1710 MHz (exclusive non-federal use)	5350-547 MHz
5850-5925 MHz (sharing with unlicensed)	5850-5925 MHz
1675-1695 MHz (sharing with licensed)	
1300-1350 MHz (sharing with licensed)	

- High interest in Band for Shared, Unlicensed Use (WIFI)
- Undecided if 5350-5470 MHz or 5850-5925 MHz will be next
- NTIA Policy and Plans Steering Group to decide in January 2012
- Highly possible 1755-1780 MHz will be the next band to study

Fast Track Recommendation

Band	Fast Track Recommendation
1675 – 1710 MHz	Geographically share Upper 15 MHz (1695 – 1710 MHz)
1755 – 1780 MHz	Removed from Fast Track and identified as priority candidate band for 10 Year Plan
3500 – 3650 MHz	Geographically share 100 MHz (3550 – 3650 MHz) within the interior of the United States
4200 – 4400 MHz	Removed from Fast Track but indentified the lower and upper 20 MHz as candidates for 10 Year Plan

Meteorological Satellite Reception 1695-1710 MHz Band

Ship Radar – 4
3550-3650 MHz Band

Next Steps

- Complete interagency coordination on 1755-1850 MHz Report
- Execute DoD reviews of spectrum related legislation
- Determine Next Band(s) to Study
- Conduct deliberate reviews of 5G bands

Key Publications

1.An Assessment of the Near-Term Viability of Accommodating Wireless Broadband Systems in the 1675-1710 MHz, 1755-1780 MHz, 3500-3650 MHz, and 4200-4220 MHz, 4380-4400 MHz Bands (Fast Track Evaluation – October 2010)

2.Plan and Timetable to Make Available 500 Megahertz of Spectrum for Wireless Broadband (10 Year Plan – October 2010)

3.First Interim Progress Report on the Ten-Year Plan and Timetable (April 2011)

4.Second Interim Progress Report on the Ten-Year Plan and Timetable (October 2011)

5.An assessment of the Viability of Accommodating Wireless Broadband in the 1755 – 1850 MHz Band (In Coordination)